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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,395	03/19/2001	Junji Momoda	SPO-591	2375

7590 11/16/2004
Sherman & Shalloway
413 North Washington Street
Alexandria, VA 22314

EXAMINER

SELLERS, ROBERT E

ART UNIT PAPER NUMBER

1712

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,395

Applicant(s)

MOMODA ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 12-14, 16-18, 23-26 and 28-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15, 19-22 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The election with traverse of Group I in the reply filed on October 15, 2004 is acknowledged. The traversal is on the grounds that Groups II and III share the same technical feature identified in the restriction and election of species requirement mailed September 15, 2004.
2. This is not found persuasive because although Groups II and III share the same technical feature as that of Group I, the special technical feature does not make a contribution over Momoda et al. Patent No. 6,194,511 nor Japanese Patent No. 10-338869 for the reasons espoused in paragraphs 3-5 of the restriction and election of species requirement.
3. Momoda et al. qualifies as prior art under 35 U.S.C. 102(e)/103 because the special technical feature does not make a contribution over it within the confines of 35 U.S.C. 102(e)/103. According to MPEP § 706-02(k), "subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention 'were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.'"
4. MPEP § 706.02(I)(2), the section entitled "II. Evidence Required to Establish Common Ownership" requires "a statement to the effect that the application and reference were, **at the time the invention was made**, owned by, or subject to an obligation of assignment to, the same person [emphasis added]."

The Traversal section of the election filed October 15, 2004 (page 8, third paragraph, the last two lines) merely contends that "Momoda et al. and the captioned application are commonly assigned to Tokuyama Corp." without specifying the common assignment at the time the invention was made.

5. Even if it had been established that there was a common assignment at the time the invention was made, the special technical feature does not make a contribution over Japanese Patent No. 10.338869. Furthermore, European Patent No. 940,694 is an equivalent of Momoda et al. and has a publication date of September 8, 1999 which antedates the effective filing date of the instant application of July 18, 2000 (the 371 date). The special technical feature does not make a contribution over the equivalent European patent for the same reasons as advanced with respect to Momoda et al. The publication date of the European patent can only be antedated by an English translation of Japanese priority application no. 205165/99 filed July 19, 1999 wherein the subject matter therein supports that of the instant application.

The requirement is still deemed proper and is therefore made FINAL.

6. Claims 16-18 and 28-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirement in the reply filed on October 15, 2004. Claims 12-14 and 23-26 are withdrawn as being directed to a non-elected species of epoxy group-containing polymerizable monomer as low hardness polymerizable monomer A).

7. The claims designate monomer C) as a "bifunctional" polymerizable monomer whereas the specification on page 4, line 35 and page 18, lines 22-23 describes a "difunctional" polymerizable monomer. The term "bifunctional" denotes the presence of two diverse reactive groups such as a glycidyl group vs. a (meth)acrylate group, or an allyl or divinyl group vs. a (meth)acrylate group. The species of monomers C) listed on page 19, lines 2-15 contain two of the same reactive groups. Therefore, the claimed "bifunctional" polymerizable monomer C) would be more accurately defined as "difunctional" which would also be consistent with the specification.
8. There is no antecedent basis in claim 21 for the compound having at least one epoxy group being glycidyl methacrylate of withdrawn claim 26 since claim 21 does not define an epoxy group-containing polymerizable monomer.
9. The specification on page 43, lines 14-15 exemplifies "propylene" glycol methacrylate "MAPPG" whereas the specification on page 11, line 33 to page 12, line 2 indicate "polypropylene" glycol methacrylate as a species of low hardness monomer A).

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification contains terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear or inexact terms used in the specification are:

1) The lack of a definition for the term "Y" in formulae (10) and (11) depicted on page 29, lines 16-28 and claim 3. The specification on page 29 lines 29-31 indicates that the portion of the formula containing "Y" "is a substituted or unsubstituted aromatic hydrocarbon group, or a substituted or unsubstituted unsaturated heterocyclic group." However, there is no description of what "Y" represents within the (un)substituted unsaturated aromatic or heterocyclic group.

2) General formula (14) and the formulae shown on page 33, lines 1-12 and 26-33 which show an fused saturated oxycyclohexyl group which is structurally distinct from the oxycyclohexyl groups with an unsaturated group encompassed by general formula (10) and illuminated by the formulae and species exhibited on pages 34-37.

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3) The lack of a definition for "K" in the formula set forth on page 33, lines 1-12. Page 33, lines 18-25 reveals that the portion of the formula with "K" "is a substituted or unsubstituted aromatic hydrocarbon group, or a substituted or unsubstituted unsaturated heterocyclic group." However, there is no description of what "Y" represents within the (un)substituted unsaturated aromatic or heterocyclic group.

10. Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claim 1 denotes a low hardness polymerizable monomer A) which according to page 14, line 33 to page 15, line 14 encompasses a "compound having at least one epoxy group in the molecule but without having radically polymerizable group in the molecule," and according to page 15, lines 15-32 embraces a "compound having at least one thioepoxy group in the molecule but without radically polymerizable group in the molecule." It is unclear how a monomer without a radically polymerizable group is capable of meeting the claimed requirement of a curable composition or a cured product when the absence of a radically polymerizable group precludes an addition polymerization reaction with polymerizable monomers A) and C). The epoxy group or thioepoxy group does not react or polymerize with the polymerizable group of the other monomers.

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11. Claims 3 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 3 according to the copy of the claims filed August 13, 2004 does not define Y, R^{28} - R^{32} and u which quantifies R^{32} in formulae (10) and (11). The substituents except for Y are denoted on page 29, line 23 to page 30, line 34 of the specification.

Claim 9 does not completely identify R^{10} and R^{11} and fails to reveal R^{12} and the oxyalkylene (meth)acrylate repeating unit quantified by b in general formula (4). The substituents are denoted on page 17, lines 26-30.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-11, 15, 19-22, 26 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4, 5 and 7 of U.S. Patent No. 6,802,993. Although the conflicting claims are not identical, they are not patentably distinct from each other. The claims of the patent set forth a curable composition comprising a ***tri(meth)acrylate to hexa(meth)acrylate polymerizable monomer (A)*** (claim 1) whose homopolymer has a L-scale Rockwell hardness of at least 60 (claim 3) corresponding to instantly claimed polyfunctional polymerizable monomer B) combined with another polymerizable monomer (C) which is at least one of ***(i) a bifunctional monomer*** whose homopolymer has a L-scale Rockwell hardness of at least 60 within the realm of instantly claimed bifunctional polymerizable monomer C) and ***(iii) a polymerizable monomer*** whose homopolymer has a L-scale Rockwell hardness of at most 40 embraced by instantly claimed monomer A). The monomer mixture is blended with a photochromic compound.
13. The claims do not preclude the silyl monomer (B) of the patent.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 15, 19-22 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Momoda et al. Patent No. 6,194,511.

14. Momoda et al. discloses a curable composition prepared from 20-90% by weight (col. 4, lines 57-59) of (A) a sulfur-containing (meth)acrylate (col. 3, lines 32-64) such as **bis(2-methacryloyloxyethylthioethyl)sulfide** (col. 3, line 23, deemed to be a suitable type of the claimed bifunctional polymerizable monomer C) according to the exemplified species identified on page 45, lines 4-5 of the specification), from 1-100 parts by weight of an epoxy-containing (meth)acrylate such as **glycidyl acrylate** (col. 8, line 29, a species of the claimed low hardness monomer A) according to page 14, line 25 and page 44, line 1), from 0-500 parts by weight of another (meth)acrylate polymerizable monomer (C) such as the elected species of **trimethylolpropane trimethacrylate** (col. 7, lines 34-35, conforming to claimed polyfunctional polymerizable monomer B)), and from 0.001-10 parts by weight (col. 18, lines 66-67) of a photochromic compound.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1-11, 15, 19-22 and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by European Patent No. 940,694.

15. The European patent is an equivalent of Momoda et al. Patent No. 6,194,511 described hereinabove and applied for the same reasons. The filing date of the European patent of September 8, 1999 antedates the effective filing date of the instant application of July 18, 2000. Only the submission of a certified English translation of Japanese priority application no. 205165/99 filed July 19, 1999 wherein the claimed subject matter is supported therein can antedate the European patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 15, 19-22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 10-338869.

16. The Japanese patent (Chemical abstracts accession no. 1998:816652) shows a curable composition obtained from (A) 10-100 parts by weight of a tri(meth)acrylate to hexa(meth)acrylate such as the elected species of **trimethylolpropane trimethacrylate** (translation, page 5, paragraph 24, line 2 and page 15, paragraph 94, line 2, within the ambit of claimed polyfunctional polymerizable monomer B)), (B) from 0-90 parts by weight of a difunctional (meth)acrylate such as **polyethylene glycol trimethacrylate** (page 6, paragraph 29, lines 2-4 and page 16, lines 1-2, encompassed by claimed bifunctional polymerizable monomer C)), (C) from 0-90 parts by weight (page 7, lines 17-20) of a (meth)acrylate such as glycidyl, methyl, ethyl or butyl acrylate (page 6, paragraph 31, lines 6 and 10, within the confines of the claimed low hardness polymerizable monomer A) according to page 14, lines 23-25), and from 0.001-10 parts by weight of a chromene photochromic compound (page 8, paragraph 35, Formula 9).

17. Tables 1 and 2 on page 17 shows blends of poly(meth)acrylates such as trimethylolpropane trimethacrylate (TMPT) embraced by claimed monomer B) and polypropylene or tetraethylene glycol dimethacrylates (page 15, paragraph 94, line 9 to page 16, line 2, 3PG, 4PG, 9PG and 4G, species of claimed low hardness monomer A) as espoused in the instant specification on page 13, lines 3-4 and 8-9). Glycidyl methacrylate is shown as the additional (meth)acrylate. It is well within the purview to employ the disclosed species of (meth)acrylate such as the glycidyl, methyl, ethyl or butyl acrylate.

18. There is no evidence of record distinguishing the claimed low hardness monomer A) over the closest prior art glycidyl methacrylate of the Japanese patent wherein the types and amounts of monomers B) and C) as well as the type and amount of photochromic compound are held constant to isolate the effect of the low hardness monomer. The low hardness monomer encompasses a variety of structurally and quantitatively functionally distinct species such as those set forth on page 7, lines 27-30; page 11, line 25 to page 13, line 19; page 14, lines 22-25 and 30-32 and page 15, lines 8-14 and 26-32.

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